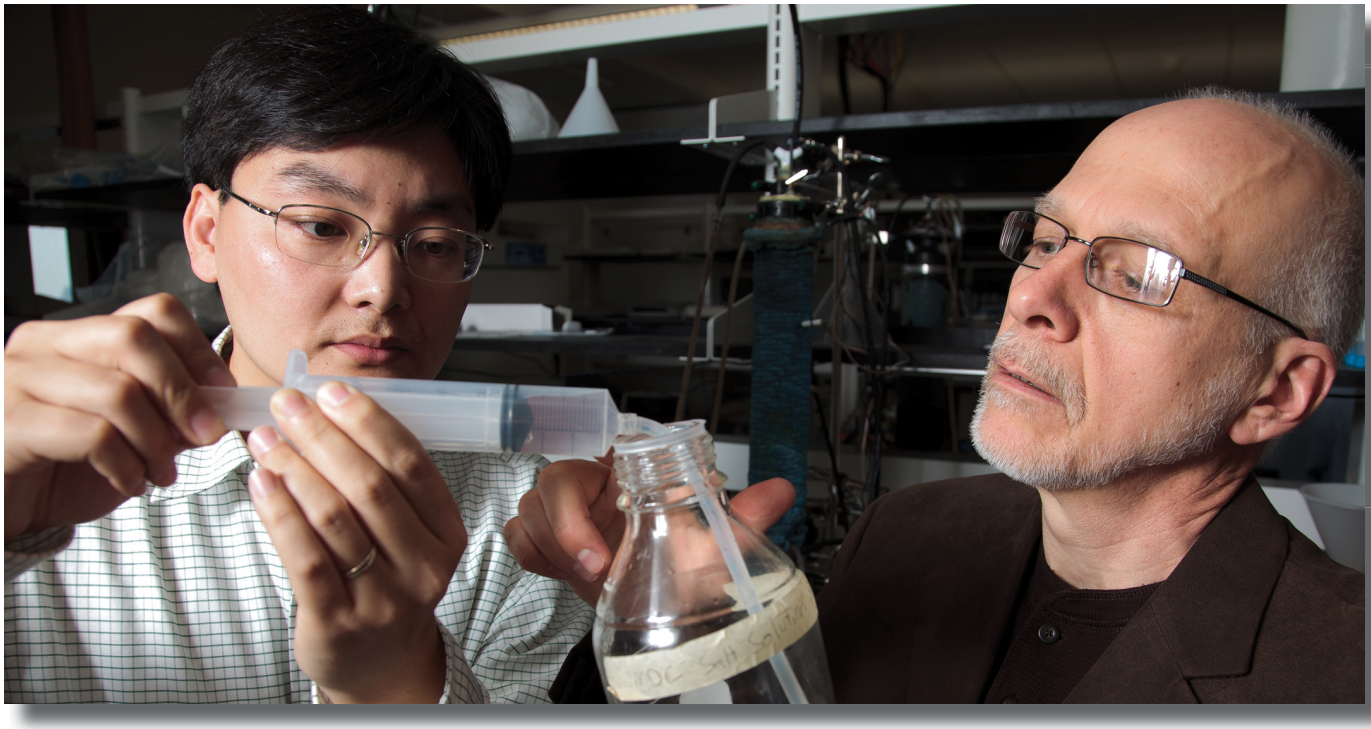
Water Equipment & Policy
I/UCRC Research Center

The WEP Research Center: Driving Water Industry Innovation



WEP's Mission

The Water Equipment and Policy (WEP) Research Center drives innovation in the water industry. Located in Milwaukee, the home to several of the world's leading water companies and research universities, WEP serves as a catalyst for creating the next generation of products and processes critical to addressing the world's growing water challenges.

WEP's industry members direct world renowned university scientists and their teams of graduate students and postdocs to pursue promising research focused on the members' most pressing business challenges. Members benefit with access to royalty-free licensing of breakthrough technologies that drive innovation and create competitive advantages.

WEP's Vision

WEP has a simple but profound vision:

- Build a network of multiple research universities and water technology companies that collaborate on research that leads to discovery and the next generation of water products, processes and policy.
- Identify and grow the next generation of talented water professionals by providing student researchers with experience applying research to solve water industry's real-world challenges.
- Grow WEP into a self-sustaining enterprise by providing value to all participants.

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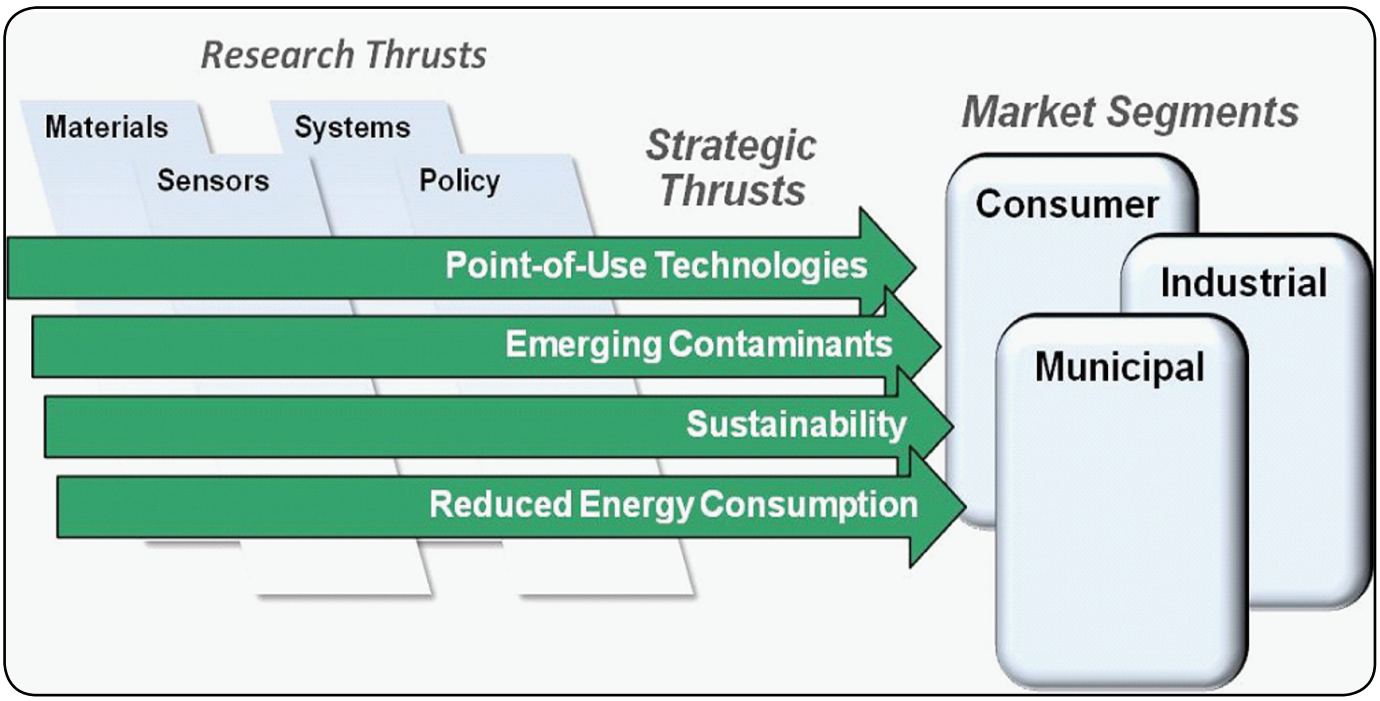
WEP Technology Roadmap



Download the comprehensive version of this simplified Technology Roadmap at WEP's website. http://www4.uwm.edu/wep/research/research areas/

WEP's industrial members collaborate in setting the center's general research direction, and select the specific projects to fund. The center focuses on four broad areas of fresh water research:

1. Materials
2. Sensors & Devices
3. Systems
4. Policies

Current members collaborated with WEP staff to create a Technology Roadmap that guides the prioritizing and planning of resources and research projects. The process of creating the roadmap began by defining the research deliverables… those innovations that could be game changers for member businesses. Then the team worked backwards to further define the research projects that would produce those results.

However WEP's Technology Roadmap is a work in progress that continues to evolve to meet the needs of new members joining the center, and to adapt to the emerging needs of current members. WEP scientists are encouraged to collaborate with researchers at other universities to complement their experience and/or resources.

Early Successes Portend a Promising Future

The Water Equipment and Policy Research Center was founded in 2010, and when compared with other I/UCRCs of comparable age, WEP has had some very noteworthy achievements.

1. WEP submitted an invention discloser and filed a provisional patent on an innovative polymer foam for removing lead from water.
2. WEP also submitted an invention disclosure on remotely read, passive, wireless sensors using acoustic wave devices.
3. WEP is in the process of migrating the results of superhydrophobic research into member product development and the manufacturing of self-cleaning products.
4. Two students working on WEP projects have been hired by industry members and many more are working with member engineers as paid interns.
5. WEP received a $200,000 fundamental research grant from the National Science Foundation to research a graphene-based sensing platform for chemicals and microorganisms in water.
6. WEP received a $50,000 grant from NSF to collaborate with another I/UCRC to study the efficiency of water and wastewater treatment technologies by using inline sensors.
7. Research projects have resulted in seven journal papers, two invited talks, six conference presentations, and seven graduate theses.
8. Dr. Michael Nosonovsky, a WEP scientist was featured in the prestigious peer reviewed Journal, Nature.

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World Renowned Scientists Advancing Water Technology in World Class Laboratories

WEP's world renowned scientists lead collaborative teams using a multidisciplinary approach in researching a broad range of water issues. They apply their research in nanomaterials, metallurgy, superhydrophobic surfaces, self-healing materials, polymers, sensors, microbial fuel cells, and more to advance the frontiers of water, wastewater, environmental science and technology. WEP university scientists built and manage state-of-the-art labs to address their industry members' most challenging issues.

UWM RESEARCH FACILITIES AND LABORATORIES

- Environmental Engineering Laboratory
- Hydraulics Laboratory
- Nanotechnology for Sustainable Energy and Environment Laboratory (NSEE)
- Laboratory for Melting, Casting and Equipment for Pressure and Squeeze Infiltration of Composite Materials
- Advanced Analysis Facility
- Department of Physics High Resolution Transmission Electron Microscopy Laboratory

MARQUETTE UNIVERSITY RESEARCH FACILITIES AND LABORATORIES

- Nano-Scale Devices Laboratory
- Microsensor Research Laboratory
- Energy Laboratory
- Water Quality Center Laboratory

For more information about becoming a member visit our website:

http://www4.uwm.edu/wep/

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